

Serial 09/967029
Searcher: Jeanne Horrigan
September 19, 2002

1

3/7/1 (Item 1 from file: 350)
DIALOG(R) File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
014318565 **Image available**
WPI Acc No: 2002-139267/200218

Increasing method for blood flow to thorax of patient periodically
stimulating phrenic nerve and periodically occluding airflow to lungs
Patent Assignee: CPRX LLC (CPRX-N)
Inventor: LINDNER K; LURIE K G ; MCKNITE S; PATTERSON R; SAMNIAH N;
VOELCKEL W ; ZIELINSKI T M
Number of Countries: 093 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200170332	A2	20010927	WO 2001US8687	A	20010316	200218 B
AU 200145852	A	20011003	AU 200145852	A	20010316	200218

Priority Applications (No Type Date): US 2000533880 A 20000322

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200170332	A2	E	80	A61N-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200145852 A A61N-000/00 Based on patent WO 200170332

Abstract (Basic): WO 200170332 A

NOVELTY - The method involves periodically stimulating the phrenic nerve to cause the diaphragm to contract and cause an increase in the magnitude and duration of negative intrathoracic pressure. The airflow to the lungs is periodically occluded during contraction of the diaphragm with a valve that is positioned to control airflow into the patient's airway to further increase the magnitude and duration of negative intrathoracic pressure. This forces more blood into the thorax.

The stimulating step involves applying electrical current to the phrenic nerve with electrodes that are positioned over the cervical vertebrae between C3 and C7.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for a method for ventilating a patient, for a method of increasing blood flow to the thorax, for a medical kit for increasing blood flow to the thorax and for a system for increasing blood flow to the thorax.

USE - For cardiopulmonary resuscitation.

ADVANTAGE - Improved patient ventilation, especially if intubation is undesirable or where ventilation can result in bursting of pulmonary alveoli and bronchioles.

DESCRIPTION OF DRAWING(S) - The figure shows a respiratory muscle stimulation device.

Compression member 12

Arms 14,16

End elements. 18,20

Dwg.1/35

Derwent Class: P34; S05

International Patent Class (Main): A61N-000/00

5/26,TI/1 (Item 1 from file: 350)
DIALOG(R) File 350:Derwent WPIX

(c) 2002 Thomson Derwent. All rts. reserv.
012140348

WPI Acc No: 1998-557260/199847

Implanted device for detection and treatment of syncope - in which
pharmaceutical composition for treating syncope is infused into heart
upon detection of physiological activity associated with onset of syncope

File 350:Derwent WPIX 1963-2002/UD,UM &UP=200259

File 344:Chinese Patents Abs Aug 1985-2002/Sep

File 347:JAPIO Oct 1976-2002/May(Updated 020903)

File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	28	AU='LURIE K':AU='LURIE K G'
S2	1	AU='VOELCKEL W'
S3	1	S1 AND S2
S4	1	DRUG? ? AND S1
S5	1	S4 NOT S3

3/6/1 (Item 1 from file: 348)

01356717

STIMULATORY DEVICE AND METHODS TO ELECTRICALLY STIMULATE THE PHRENIC NERVE

3/6/2 (Item 1 from file: 349)

00837059 **Image available**

STIMULATORY DEVICE AND METHODS TO ELECTRICALLY STIMULATE THE PHRENIC NERVE

Publication Year: 2001

4/6/1 (Item 1 from file: 348)

01405027

CPR TRAINING APPARATUS AND METHODS

4/6/2 (Item 2 from file: 348)

01357151

CPR MASK WITH COMPRESSION TIMING METRONOME AND METHODS

4/6/3 (Item 3 from file: 348)

01156759

CARDIOPULMONARY RESUSCITATION VENTILATOR AND METHODS

4/6/4 (Item 4 from file: 348)

01118682

STIMULATORY DEVICE AND METHODS TO ENHANCE VENOUS BLOOD RETURN DURING
CARDIOPULMONARY RESUSCITATION

4/6/5 (Item 5 from file: 348)

01002968

DEVICE AND METHOD FOR DETECTION AND TREATMENT OF SYNCOPE

4/6/6 (Item 6 from file: 348)

00958085

HEART FAILURE TREATMENT METHOD REQUIRING SET NEGATIVE INTRATHORACIC
PRESSURE

4/6/7 (Item 7 from file: 348)

00895107

COMBINATIONS OF VASOPRESSIN AND ADRENERGIC AGENTS FOR THE TREATMENT OF
CARDIAC ARREST

4/6/8 (Item 8 from file: 348)
00804856

CPR DEVICE HAVING STRUCTURE FOR INCREASING THE DURATION AND MAGNITUDE OF
NEGATIVE INTRA-THORACIC PRESSURE

4/6/9 (Item 9 from file: 348)
00801713
Coronary sinus catheter

4/6/10 (Item 10 from file: 348)
00703210
METHOD AND DEVICE FOR ASSISTING CARDIOPULMONARY RESUSCITATION

4/6/11 (Item 11 from file: 348)
00644535
Cardiopulmonary resuscitation device

4/6/12 (Item 12 from file: 348)
00539057
Device for external chest compression

4/6/13 (Item 1 from file: 349)
00870227 **Image available**
CPR TRAINING APPARATUS AND METHODS
Publication Year: 2002

4/6/14 (Item 2 from file: 349)
00836931 **Image available**
CPR MASK WITH COMPRESSION TIMING METRONOME AND METHODS
Publication Year: 2001

4/6/15 (Item 3 from file: 349)
00556688 **Image available**
CARDIOPULMONARY RESUSCITATION VENTILATOR AND METHODS
Publication Year: 2000

4/6/16 (Item 4 from file: 349)
00532574
STIMULATORY DEVICE AND METHODS TO ENHANCE VENOUS BLOOD RETURN DURING
CARDIOPULMONARY RESUSCITATION
Publication Year: 1999

4/6/17 (Item 5 from file: 349)
00454522 **Image available**
DEVICE AND METHOD FOR DETECTION AND TREATMENT OF SYNCOPE
Publication Year: 1998

4/6/18 (Item 6 from file: 349)
00430474 **Image available**
HEART FAILURE TREATMENT METHOD REQUIRING SET NEGATIVE INTRATHORACIC
PRESSURE
Publication Year: 1998

Serial 09/967029
Searcher: Jeanne Horrigan
September 19, 2002

4

4/6/19 (Item 7 from file: 349)
00395866
COMBINATIONS OF VASOPRESSIN AND ADRENERGIC AGENTS FOR THE TREATMENT OF
CARDIAC ARREST
Publication Year: 1997

4/6/20 (Item 8 from file: 349)
00345702 **Image available**
CPR DEVICE HAVING STRUCTURE FOR INCREASING THE DURATION AND MAGNITUDE OF
NEGATIVE INTRA-THORACIC PRESSURE
Publication Year: 1996

4/6/21 (Item 9 from file: 349)
00294959
METHOD AND DEVICE FOR ASSISTING CARDIOPULMONARY RESUSCITATION
Publication Year: 1995

4/6/22 (Item 10 from file: 349)
00269025
ENZYMATIC FLUOROMETRIC ASSAY FOR ADENYLATE CYCLASE
Publication Year: 1994

4/6/23 (Item 11 from file: 349)
00262876
METHODS AND PHARMACEUTICAL COMPOSITIONS FOR ENHANCED CARDIOPULMONARY
RESUSCITATION
Publication Year: 1994

File 348:EUROPEAN PATENTS 1978-2002/Sep W02
File 349:PCT FULLTEXT 1983-2002/UB=20020912,UT=20020905
Set Items Description
S1 25 AU='LURIE KEITH G'
S2 2 AU='VOELCKEL WOLFGANG'
S3 2 S1 AND S2
S4 23 S1:S2 NOT S3

13/7/5 (Item 5 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.
10915460 EMBASE No: 2000412773
Use of vasopressor drugs during cardiopulmonary resuscitation
Krismer A.C.; Wenzel V.; Mayr V.D.; Voelckel W.G. ; Strohmenger H.U.;
Lindner K.H.
Dr. K.H. Lindner, Dept. of Anesthesiol./Critical Care,
Leopold-Franzens-University, Anichstrasse 35, 6020 Innsbruck Austria
Bailliere's Best Practice and Research in Clinical Anaesthesiology (
BAILLIERE'S BEST PRACT. RES. CLIN. ANAESTHESIOLOG.) (United Kingdom) 2000
, 14/3 (497-509)
CODEN: BBPAF ISSN: 1521-6896
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 69
Epinephrine therapy during cardiopulmonary resuscitation (CPR) is
associated with a variety of undesirable and potentially deleterious
effects. Although several large clinical trials have been performed to

study the role of epinephrine during cardiac arrest, no definite evidence of benefit has been shown. In summary, it can be said that long-term survival after CPR with epinephrine is disappointing, especially when considering out-of-hospital cardiac arrest. Vital organ blood flow during CPR and neurological recovery after CPR was significantly better in pigs treated with vasopressin compared to epinephrine. Furthermore, two clinical studies evaluating both out-of-hospital and in-hospital cardiac arrest patients found higher 24-hour survival rates in patients who were resuscitated with vasopressin compared to epinephrine. Scientists at the University in Innsbruck are currently co-ordinating a multi-centre randomized clinical trial under the aegis of the European Resuscitation Council to study the effects of vasopressin versus epinephrine in out-of-hospital cardiac arrest patients. Results of the anticipated total of 1500 patients enrolled may be available in 2001, and may help to determine the role of vasopressin during CPR.

13/7/21 (Item 21 from file: 5)
DIALOG(R) File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
13467911 BIOSIS NO.: 200200096732
[Pharmacotherapy during CPR.]
ORIGINAL LANGUAGE TITLE: Pharmakotherapie bei der kardiopulmonalen Reanimation.
AUTHOR: Krismer A C(a); Wenzel V; Mayr V D; Voelckel W G ; Strohmenger H U ; Lindner K H
AUTHOR ADDRESS: (a)Univ.-Klinik fuer Anaesthesie und Allg. Intensivmedizin, Leopold-Franzens-Universitaet Innsbruck, Anichstrasse 35, 6020, Innsbruck
**Austria E-Mail: anette.krismer@uibk.ac.at
JOURNAL: Intensivmedizin und Notfallmedizin 38 (8):p676-689 November, 2001
MEDIUM: print
ISSN: 0175-3851
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: German; Non-English
ABSTRACT: Epinephrine therapy during cardiopulmonary resuscitation (CPR) is associated with a variety of undesirable and potentially deleterious effects. For example, laboratory studies employing epinephrine during CPR showed increased myocardial oxygen consumption, ventricular arrhythmias, ventilation-perfusion defect, and postresuscitation myocardial dysfunction. In laboratory CPR investigations with ventricular fibrillation or post-countershock pulseless electrical activity, vasopressin improved vital organ blood flow, cerebral oxygen delivery, resuscitability, and neurological recovery better than epinephrine did. In patients with out-of-hospital ventricular fibrillation, a larger proportion of patients treated with vasopressin survived 24 hours compared with patients treated with epinephrine; during in-hospital CPR, comparable short-term survival was found in groups treated with either vasopressin or epinephrine. The new CPR guidelines of both the American Heart Association and European Resuscitation Council recommend 40 units vasopressin intravenously, and 1 mg epinephrine intravenously as equally effective for the treatment of adult patients in ventricular fibrillation. Currently, a large trial of out-of-hospital cardiac arrest patients being treated with vasopressin vs. epinephrine is ongoing in Germany, Austria, and Switzerland.

13/7/23 (Item 23 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

12902008 21661169 PMID: 11802506

Drug therapy in cardiopulmonary resuscitation]

Medikamentöse Therapie bei der kardiopulmonalen Reanimation.

Wenzel V; Krismer A C; Mayr V D; Voelckel W G ; Strohmenger H U; Lindner K H
Universitätsklinik für Anaesthesie und Allgemeine Intensivmedizin,
Leopold-Franzens-Universität Innsbruck, Österreich. volker.wenzel@uibk.ac.at
Wiener klinische Wochenschrift (Austria) Dec 17 2001, 113 (23-24)
p915-26, ISSN 0043-5325 Journal Code: 21620870R

Document type: Journal Article; Review; Review, Tutorial; English Abstract
Languages: GERMAN

Main Citation Owner: NLM

Record type: Completed

In the year 2000, new international guidelines for cardiopulmonary resuscitation (CPR) were published by the American Heart Association, and the European Resuscitation Council. These guidelines are evidence-based, indicating that these recommendations are based primarily on interpretation of data from clinical studies. Levels of recommendation range from class I (proven safe and useful), class IIa (intervention of choice), IIb (alternative intervention), indeterminate (research stage), and class III (unacceptable, no benefit). Administration of drugs during CPR should be performed intravenously or intraosseously (class IIa) or, as a second-line approach, endotracheally (class IIb). Due to lack of evidence, the standard dose of 1 mg epinephrine to treat ventricular fibrillation, pulseless electrical activity, or asystole was categorized as class indeterminate; while a single dose of 40 units vasopressin to treat adults with shock-refractory ventricular fibrillation received a IIb recommendation. Owing to a lack of clinical data, the use of vasopressin was neither recommended to treat adults with pulseless electrical activity or asystole, nor for the use in children. Both endothelin and calcium were not recommended for routine use (class indeterminate). Careful titration of acid-base status with 1 mL/kg 8.4% sodium bicarbonate should only be administered if indicated by blood gas analysis (class indeterminate). If 1 mg epinephrine fails to be effective in adult patients with pulseless electrical activity or asystole, 1 mg atropine can be administered (class indeterminate). Regarding antiarrhythmic drugs, 300 mg amiodarone (class IIb) showed the best results in shock-refractory ventricular fibrillation. The postresuscitation phase has the goal to achieve the best possible neurological performance after return of spontaneous circulation, which requires careful optimization of organ functions. (104 Refs.)

Record Date Created: 20020122

File 155:MEDLINE(R) 1966-2002/Sep W3

File 5:Biosis Previews(R) 1969-2002/Sep W1

File 73:EMBASE 1974-2002/Sep W2

File 34:SciSearch(R) Cited Ref Sci 1990-2002/Sep W3

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

Set	Items	Description
S1	646	E3, E5, E7, E9, E12, E13, E14
S2	162	AU='VOELCKEL W':AU='VOELCKEL WOLFGANG G'
S3	80	S1 AND S2
S4	84448	DRUG? ? (3N) DELIVER?
S5	0	S3 AND S4
S6	0	S1:S2 AND S4
S7	8075525	DRUG OR DRUGS
S8	242	S1:S2 AND S7

S9 181 S7/TI,DE AND S8
S10 10 S9/2002
S11 171 S9 NOT S10
S12 96 RD (unique items)
S13 96 Sort S12/ALL/PD,D

11/6,K/1 (Item 1 from file: 155)

DIALOG(R) File 155:

09198729 97115345 PMID: 8956746

Improved nasal breathing reduces snoring and morning tiredness. A 6-month follow-up study.

Dec 1996

BACKGROUND: Dilation of the nasal valve region can increase the ability to breathe through the nose and reduce the negative intrathoracic pressure required for inspiration. Vibrations of the palate and soft tissues of the throat, which generate...

... during the 6-month test period. CONCLUSIONS: This study illustrates the benefits that reducing nasal airway resistance during sleep has on snoring and morning tiredness in patients.

11/6,K/2 (Item 1 from file: 5)

DIALOG(R) File 5:(c) 2002 BIOSIS. All rts. reserv.

04339822 BIOSIS NO.: 000078069366

THE EFFECT OF HIGH FREQUENCY JET VENTILATION ON INTRA CRANIAL PRESSURE IN THE PATIENTS WITH SEVERE HEAD INJURY

1984

...ABSTRACT: IMV [intermittent mandatory ventilation] (with PEEP [positive end-expiratory pressure]) and/or CPAP [continuous positive airway pressure] using the IMV mode of Servo 900 respirator or T-piece together with PEEP valve and another was new-fashioned HFJV. Mean intratracheal pressure (mPit) was fixed at 0 mmHg (control value), 5, 10 and 15 mmHg in both methods by adjusting PEEP valve or driving pressure of HFJV. ICP was significantly lower during HFJV than IMV/CPAP when...

...or PaO2 [partial pressure of arterial O2]. The fluctuation of CVP reflecting the change of intrathoracic pressure was smaller in HFJV group than in IMV/CPAP group. ICP is determined by the...

...with pathologically elevated ICP. Since HFJV can stabilize the circulatory condition resulting partially from stable intrathoracic pressure and can reduce brain surface movement, it may prevent worsening of the injury and may eventually prevent elevation...

14/6,K/1 (Item 1 from file: 155)

DIALOG(R) File 155:

07166521 92079476 PMID: 1720829

Heart failure augments the cardiovascular and renal effects of neutral endopeptidase inhibition in rats.

Sep 1991

... than those in normal rats (12 +/- 5 microliters/min and 1.6 microEq/min, respectively). Thoracic venous pressure decreased by 1.9 +/- 0.4 mm Hg 80 min after SQ 28,603 in infarcted...

...; drug effects--DE; Heart Failure, Congestive--physiopathology--PP; Heart Rate--drug effects--DE; Myocardial Infarction--drug therapy--DT; Myocardial Infarction--metabolism--ME; Myocardial Infarction--physiopathology--PP; Neprilysin--antagonists and inhibitors--AI; Neprilysin...

14/6,K/6 (Item 4 from file: 73)
DIALOG(R)File 73:(c) 2002 Elsevier Science B.V. All rts. reserv.
04879218 EMBASE No: 1992019433
Site of hemodynamic effects of intrathecal alphainf 2-adrenergic agonists
1991
...2-adrenoceptors on cholinergic preganglionic sympathetic neurons.
ST-91, a polar clonidine analog, did not decrease blood pressure after
thoracic intrathecal injection. Intrathecal injection of the muscarinic
receptor agonist carbamylcholine increased blood pressure. These data...
MEDICAL DESCRIPTORS:
adrenergic system; animal experiment; article; controlled study;
intrathecal drug administration ; intravenous drug administration ;
nonhuman; priority journal; sheep

14/6,K/7 (Item 5 from file: 73)
DIALOG(R)File 73:(c) 2002 Elsevier Science B.V. All rts. reserv.
04271040 EMBASE No: 1990153596
Sodium nitroprusside decreases spinal cord perfusion pressure during
descending thoracic aortic cross-clamping in the dog
1990
MEDICAL DESCRIPTORS:
dog; perfusion; animal experiment; nonhuman; intravenous drug
administration ; article; priority journal; surgery

14/6,K/8 (Item 6 from file: 73)
DIALOG(R)File 73:(c) 2002 Elsevier Science B.V. All rts. reserv.
03771425 EMBASE No: 1988220861
Effects of thoracic epidural analgesia with morphine or bupivacaine on
lower oesophageal motility - An experimental study in man
1988
Lower oesophageal peristalsis and lower oesophageal sphincter (LOS)
pressure during thoracic epidural analgesia (TEA) were studied in 20
healthy volunteers. After oesophageal manometric baseline recordings, 10...
DRUG DESCRIPTORS:
*bupivacaine--pharmacology--pd; *bupivacaine-- drug therapy --dt; *
bupivacaine-- drug dose--do; *bupivacaine--drug comparison--cm; *
bupivacaine-- drug administration --ad; *morphine--pharmacology--pd; *
morphine-- drug therapy --dt; *morphine-- drug dose--do; *morphine--drug
comparison--cm; *morphine-- drug administration --ad

14/7/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
03343551 80156742 PMID: 6767605
Chronic obstructive pulmonary disease (COPD): effects of bronchodilator
drugs on normal and affected horses.
Murphy J R; McPherson E A; Dixon P M
Equine veterinary journal (ENGLAND) Jan 1980, 12 (1) p10-4, ISSN
0425-1644 Journal Code: 0173320
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
The effects of the bronchodilator drugs, atropine, isoprenaline and
terbutaline, on normal horses and on horses affected with chronic
obstructive pulmonary disease (COPD), were assessed by pulmonary function

tests and clinical examination. Normal horses were not affected but COPD horses responded by a marked decrease in intrathoracic pressure, a decrease in respiratory rate, an initial decrease followed by an increase in arterial oxygen partial pressure and clinical improvement after treatment with all 3 drugs. These changes were temporary.

Record Date Created: 19800627

14/7/3 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

(c) 2002 Elsevier Science B.V. All rts. reserv.

11147012 EMBASE No: 2001162961

Quality-of-life study on four patients who underwent esophageal resection and delayed reconstruction for Boerhaave's syndrome

Varghese D.; Patel H.; Waters R.; Dickson G.H.

Dr. D. Varghese, 20 Lytham Close, Thamesmead, London SE28 8QH United Kingdom

AUTHOR EMAIL: david@varghese.freemove.co.uk

Diseases of the Esophagus (DIS. ESOPHAGUS) (Australia) 2000, 13/4 (314-316)

CODEN: DIESE ISSN: 1120-8694

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 15

Boerhaave's syndrome is the condition of spontaneous rupture of the esophagus as a consequence of the strain of emesis with or without predisposing esophageal disease. It is a condition with high mortality. We describe four patients who underwent a transthoracic esophagectomy to remove the rupture of the intrathoracic esophagus, closure of the esophageal gastric junction, fashioning of a feeding gastrostomy, and formation of a left cervical esophagostomy. Three patients underwent reconstruction with subcutaneous colon. We suggest that this method of management may be considered where primary repair is impossible in those patients too ill for prolonged reconstruction or as a salvage procedure where other methods have failed. The poor quality of life after esophagectomy is improved by reconstruction. Other surgical options include covering the repaired opening with a circumferential wrap of pleura, chest wall muscle, or omentum or closing the repair around a T-tube of large caliber. Esophageal exclusion using absorbable staples is another approach.

14/7/4 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

(c) 2002 Elsevier Science B.V. All rts. reserv.

10915459 EMBASE No: 2000412772

Recent advances in active compression-decompression cardiopulmonary resuscitation

Sukhum P.; Voelckel W.; Lurie K.G.

Dr. K.G. Lurie, AHC, 420 Delaware St. SE, Minneapolis, MN 55455 United States

Bailliere's Best Practice and Research in Clinical Anaesthesiology (

BAILLIERE'S BEST PRACT. RES. CLIN. ANAESTHESIOLOGY) (United Kingdom) 2000, 14/3 (483-496)

CODEN: BBPAF ISSN: 1521-6896

DOCUMENT TYPE: Journal; Review

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 26

In an attempt to improve upon the currently poor outcomes for patients in

cardiac arrest, new methods and devices have been developed to enhance the efficiency and efficacy of standard cardiopulmonary resuscitation (CPR). One new approach, active compression-decompression (ACD) CPR was developed to lower the intrathoracic pressure during the decompression phase of CPR, thereby enhancing venous blood return to the thorax. Over the past decade the ACD CPR device has been extensively evaluated in animals and humans. ACD CPR is the only new approach for improving CPR efficacy with a mechanical device that has achieved clinical relevance. More recently, an inspiratory impedance threshold valve (ITV(TM)) has been developed that causes a further reduction in intrathoracic pressures, augmenting the efficiency of both standard and ACD CPR. Consequently, ACD CPR and the impedance valve were recently recommended by the American Heart Association. Clinical trials are underway to determine the long-term, potential value of these new technologies.

14/7/5 (Item 3 from file: 73)
DIALOG(R) File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.
06655318 EMBASE No: 1996320189
Using drug chronotherapy to wean patients from mechanical ventilation
Clochesy J.M.; Petty G.M.; Paschall F.E.
Acute and Tertiary Care, Univ. of Pittsburgh Sch. of Nursing, Pittsburgh,
PA United States
Critical Care Nursing Quarterly (CRIT. CARE NURS. Q.) (United States)
1996, 19/3 (52-58)
CODEN: CCNQE ISSN: 0887-9303
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
Discontinuation of positive pressure mechanical ventilation results in decreased intrathoracic pressure. Although there has been extensive research into factors associated with weaning adults from mechanical ventilatory support, little attention has been paid to the role of left ventricular performance. Research also has not focused on interventions that might optimize ventricular performance. The purpose of this article is to explore the potential effect of cardiac dysfunction in weaning and the role of drug chronotherapy as a strategy to modify patients' responses to weaning from mechanical ventilatory support. Biophysical principles involved are reviewed, and the development of a chronotherapeutic intervention is described. Two case examples illustrate the use of drug chronotherapy during the weaning process.

File 155:MEDLINE(R) 1966-2002/Sep W3
File 144:Pascal 1973-2002/Sep W3
File 5:Biosis Previews(R) 1969-2002/Sep W3
File 6:NTIS 1964-2002/Sep W3
File 2:INSPEC 1969-2002/Sep W3
File 8:Ei Compendex(R) 1970-2002/Sep W3
File 99:Wilson Appl. Sci & Tech Abs 1983-2002/Aug
File 238:Abs. in New Tech & Eng. 1981-2002/Sep
File 65:Inside Conferences 1993-2002/Sep W3
File 77:Conference Papers Index 1973-2002/Sep
File 73:EMBASE 1974-2002/Sep W3
File 34:SciSearch(R) Cited Ref Sci 1990-2002/Sep W3
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 94:JICST-EPlus 1985-2002/Jul W3
File 35:Dissertation Abs Online 1861-2002/Aug

Set	Items	Description
S1	3159634	(DRUG OR DRUGS) (3N) (DELIVER? OR ADMINIST? OR THERAP?)
S2	2569	AIRWAY? ? AND VALVE? ?
S3	12183057	REDUC? OR LOWER??? OR DECREAS???
S4	6248	(THORAX OR THORACIC OR INTRATHORACIC) (2N) PRESSURE
S5	135	S1 AND S2
S6	398	S3(3N)S4
S7	0	S5 AND S6
S8	0	S5 AND S4
S9	48	S2 AND S4
S10	26	RD (unique items)
S11	2	S6 AND S10
S12	9	S1 AND S6
S13	9	S12 NOT S9
S14	8	RD (unique items)

9/6,K/1 (Item 1 from file: 149)
 DIALOG(R)File 149:(c) 2002 The Gale Group. All rts. reserv.
 01790564 SUPPLIER NUMBER: 21081710 (USE FORMAT 7 OR 9 FOR FULL TEXT)
 Managing cough as a defense mechanism and as a symptom: a consensus report
 of the American College of Chest Physicians.
 1998

WORD COUNT: 38089 LINE COUNT: 03370

... the cough is less effective. Diaphragmatic contraction during cough
 would adversely affect cough by further lowering intrathoracic
 pressure .

Altered Mucus Rheology--Cough ineffectiveness may occur when the
 rheologic properties of mucus are altered...device, a high-density
 stainless steel ball rests in a circular cone and creates a valve .
 Breathing through the device creates oscillations in the airway , the
 frequency of which can be modulated by changing the inclination of the
 pipe. Konstan...to GERD, the following caveats should be considered (Grade
 II-2, II-3, III): (1) drug therapy should not be utilized to the
 exclusion of dietary and lifestyle changes; (2) (H.sub...characterized and
 may have included patients with asthma.

Table 10--Summary of Recommended Nonspecific Antitussive Therapy (*)

Drug	No. of Patients	Population	Design
Ipratropium bromide	23	B	RDBPC
	14	PI	RDBPC
Dexbrompheniramine	73	CC	RDBPC...

9/3,AB,K/2 (Item 2 from file: 149)
 DIALOG(R)File 149:TGG Health&Wellness DB(SM)
 (c) 2002 The Gale Group. All rts. reserv.
 01693042 SUPPLIER NUMBER: 18950991 (USE FORMAT 7 OR 9 FOR FULL TEXT)
 New ventilatory strategies in acute respiratory failure.
 Gowski, Diane T.; Miro, Adelaida M.
 Critical Care Nursing Quarterly, v19, n3, p1(22)
 Nov, 1996
 PUBLICATION FORMAT: Magazine/Journal ISSN: 0887-9303 LANGUAGE: English
 RECORD TYPE: Fulltext; Abstract TARGET AUDIENCE: Professional
 WORD COUNT: 10759 LINE COUNT: 00953
 ABSTRACT: Researchers are attempting to develop new techniques for
 avoiding ventilator-induced lung damage in patients in acute respiratory

failure. Work is ongoing in determining the optimal positive end-expiratory pressure to prevent overdistention. Extracorporeal life support systems and intravascular oxygenators continue to be used experimentally although improved outcomes have not been demonstrated. Inhaled nitric oxide and tracheal gas insufflation may improve function in mechanically ventilated patients. Guidelines for care are given for each modality.

... in intrapulmonary shunting, and increases in oxygenation, but may also cause hemodynamic compromise. PEEP increases intrathoracic pressure, which frequently leads to decreases in systemic venous return, a fall in cardiac output, and ultimately hypotension. (2,18,33...High and colleagues (65) conducted a recent Phase I trial, approved by the Food and Drug Administration (FDA), in five patients with severe ARDS. IVOX was shown to increase Pa(O₂...513-519.

(101.) Gowski DT, Delgado E, Miro AM, Tastota FJ, Hoffman LA, Pinsky MR. Airway insufflation during pressure control ventilation: effects of pressure relief valve in the circuit. Crit Care Med, in press...

12/6,K/1 (Item 1 from file: 149)
DIALOG(R)File 149:(c) 2002 The Gale Group. All rts. reserv.
01648557 SUPPLIER NUMBER: 18812687 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Lung volume reduction surgery in ventilator-dependent COPD patients.
(chronic obstructive pulmonary disease)
1996

WORD COUNT: 4793 LINE COUNT: 00455
... described by others.(11) Briefly, a double-limb inspiratory and expiratory breathing circuit with unidirectional valves and a hand-held device capable of measuring airway pressure (Respiradyne II; Sherwood Medical; St. Louis) was attached to the proximal end of a...most likely primarily related to severe hyperinflation causing foreshortening of the inspiratory muscles and a reduced ability to generate changes in intrathoracic pressure...

12/6,K/2 (Item 2 from file: 149)
DIALOG(R)File 149:(c) 2002 The Gale Group. All rts. reserv.
01622211 SUPPLIER NUMBER: 18427017 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Chest physical therapy for patients in the intensive care unit.(Cardiopulmonary Special Series)
1996

WORD COUNT: 11208 LINE COUNT: 01020
... technique, active cycle of breathing, positive expiratory pressure, autogenic drainage, and use of a flutter valve are newer airway clearance techniques that appear to be beneficial for cooperative patients with chronic sputum-producing diseases...cardiovascular monitoring. Further study is needed to determine whether HFCC and use of a flutter valve facilitate mucus clearance from central and peripheral airways for patients who are critically ill and immobile.

Manual Lung Inflation

Manual lung inflation, which...neuromuscular function of the respiratory and abdominal muscles. While huffing, the glottis remains open and intrathoracic pressure is lower than with coughing.[95] When incisional pain is the limiting factor, support of thoracic and...

12/6,K/3 (Item 3 from file: 149)
DIALOG(R)File 149:(c) 2002 The Gale Group. All rts. reserv.
01412540 SUPPLIER NUMBER: 13441771 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Continuous positive airway pressure in COPD patients in acute hypercapnic

respiratory failure. (Preliminary Report)

1993

WORD COUNT: 1490 LINE COUNT: 00164

... level, and pressure was monitored with an in-line manometer.
Spring-loaded threshold resistor PEEP valves (Vital Signs, Totowa, NJ)
maintained expiratory positive airway pressure in the CPAP system.

Protocol

Administration of CPAP was started at a level of...
...had progressive reductions in respiration-induced excursions in central
venous pressure (reflective of changes in intrathoracic pressure),
suggesting that work of breathing decreased with increasing

File 98:General Sci Abs/Full-Text 1984-2002/Aug
File 9:Business & Industry(R) Jul/1994-2002/Sep 18
File 160:Gale Group PROMT(R) 1972-1989
File 148:Gale Group Trade & Industry DB 1976-2002/Sep 19
File 621:Gale Group New Prod.Annou.(R) 1985-2002/Sep 18
File 636:Gale Group Newsletter DB(TM) 1987-2002/Sep 19
File 441:ESPICOM Pharm&Med DEVICE NEWS 2002/Sep W2
File 20:Dialog Global Reporter 1997-2002/Sep 19
File 813:PR Newswire 1987-1999/Apr 30
File 95:TEME-Technology & Management 1989-2002/Sep W3
File 15:ABI/Inform(R) 1971-2002/Sep 18
File 88:Gale Group Business A.R.T.S. 1976-2002/Sep 18
File 442:AMA Journals 1982-2002/Sep B1
File 444:New England Journal of Med. 1985-2002/Sep W4
File 149:TGG Health&Wellness DB(SM) 1976-2002/Sep W2

Set	Items	Description
S1	470166	(DRUG OR DRUGS) (3N) (DELIVER? OR ADMINIST? OR THERAP?)
S2	2372	AIRWAY? ? AND VALVE? ?
S3	7778814	REDUC? OR LOWER??? OR DECREAS???
S4	836	(THORAX OR THORACIC OR INTRATHORACIC) (2N) PRESSURE
S5	222	AIRWAY? ? (10N) VALVE? ?
S6	47	S1 AND S5
S7	166	S3 (5N) S4
S8	2	S6 AND S7
S9	2	RD (unique items)
S10	5	S7 AND S5
S11	3	S10 NOT S9
S12	3	RD (unique items)

7/26,TI,K/1 (Item 1 from file: 350)
DIALOG(R) File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
014318565

WPI Acc No: 2002-139267/200218

Increasing method for blood flow to thorax of patient periodically
stimulating phrenic nerve and periodically occluding airflow to lungs
...Abstract (Basic): the diaphragm to contract and cause an increase in the
magnitude and duration of negative intrathoracic pressure . The
airflow to the lungs is periodically occluded during contraction of the
diaphragm with a valve that is positioned to control airflow into the
patient's airway to further increase the magnitude and duration of
negative intrathoracic pressure. This forces more blood into the thorax...

7/26, TI, K/2 (Item 2 from file: 350)
DIALOG(R) File 350: Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
013065040

WPI Acc No: 2000-236912/200020

Heart failure mask and methods for increasing negative intrathoracic pressures that incorporates an airflow controller

Abstract (Basic):

... endotracheal tube (100). The distal end (102) of the tube is inserted into the patients airway .
... 38). The holes allow respiratory gasses to flow into and out from mask (12), when valves (22) and (24) are opened...
...proceeds by preventing respiratory gasses from entering the patients lungs during inhalation until a negative intrathoracic pressure within a desired range is developed within the patient...
... Valves (22

7/26, TI, K/3 (Item 3 from file: 350)
DIALOG(R) File 350: Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
010292655

WPI Acc No: 1995-193914/199525

Method for increasing cardiopulmonary circulation - involves impeding airflow into patient's lungs by placing ventilation tube in patient's airway

...Abstract (Basic): air flow into the patient's lungs to enhance the extent and duration of negative intrathoracic pressure during decompression of the patient's chest...
...Abstract (Equivalent): chest compression and decompression when performing cardio pulmonary resuscitation, by augmenting at least the negative intrathoracic pressure, said method comprising the steps of...
...patient's mouth and throat, a source of respiratory gases, and at least one inflow valve ; ...
...performing chest compression and chest decompression, wherein during chest decompression, said at least one inflow valve prevents respiratory gases from entering the lungs until a negative intrathoracic pressure level is exceeded at which time said at least one inflow valve opens, said at least one inflow valve assisting in increasing the magnitude and duration of negative intrathoracic pressure during decompression and thereby enhancing the amount of venous blood flow into the heart and

7/26, TI, K/4 (Item 4 from file: 350)
DIALOG(R) File 350: Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
003371462

WPI Acc No: 1982-M9494E/198239

Manually-actuable cardio-pulmonary resuscitator - has bellows mounted on patient's chest and coupled endotracheal tube by valve

...Abstract (Basic): a patient and includes a closed chamber which is coupled by a conduit and a valve to an airway inserted into the patient's airway , and by a second valve and a conduit to an inflatable bladder forming part of an abdominal restraint secured about the patient's body. As the bellows is compressed the first valve couples the gas being expelled from the bellows into the patient's lungs...
...The patient's intrathoracic pressure is increased due to the combination of the manual force applied to the patient's...

...s lungs. When the bellows is being decompressed following the removal of manual force, the valve couples gas from the patient's lungs and from the atmosphere back to the bellows...

File 350:Derwent WPIX 1963-2002/UD,UM &UP=200259

File 344:Chinese Patents Abs Aug 1985-2002/Sep

File 347:JAPIO Oct 1976-2002/May(Updated.020903)

File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	10152	(DRUG OR DRUGS) (3N) (DELIVER? OR ADMINIST? OR THERAP?)
S2	278	AIRWAY? ? AND VALVE? ?
S3	4293643	REDUC? OR LOWER??? OR DECREAS???
S4	67	(THORAX OR THORACIC OR INTRATHORACIC) (2N) PRESSURE
S5	0	S1 AND S2 AND S3(5N)S4
S6	0	S1 AND S2 AND S4
S7	4	S2 AND S4

5/6/1 (Item 1 from file: 349)

00837059 **Image available**

STIMULATORY DEVICE AND METHODS TO ELECTRICALLY STIMULATE THE PHRENIC NERVE

Publication Year: 2001

5/6/4 (Item 4 from file: 349)

00347562 **Image available**

CIRCULATION DEVICE AND METHOD FOR PERFORMING THE SAME

Publication Year: 1996

5/6/5 (Item 5 from file: 349)

00127709

METHOD AND APPARATUS FOR MEASURING BLOOD OXYGEN LEVELS

Publication Year: 1986

5/3,AB/2 (Item 2 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

(c) 2002 WIPO/Univentio. All rts. reserv.

00430474

HEART FAILURE TREATMENT METHOD REQUIRING SET NEGATIVE INTRATHORACIC PRESSURE
PROCEDE DE TRAITEMENT DES INSUFFISANCES CARDIAQUES NECESSITANT UNE PRESSION
INTRATHORACIQUE NEGATIVE DEFINIE

Patent Applicant/Assignee:

CPRx INC,

Inventor(s):

LURIE Keith G,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9820938 A1 19980522

Application: WO 97US20378 19971112 (PCT/WO US9720378)

Priority Application: US 96747371 19961112

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GE GH HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK
MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU
ZW GH KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES
FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 4340

English Abstract

A method for treating a patient suffering from heart failure comprising sealing a facial mask (14) around the patient's mouth and nose, with the mask including a one-way expiration valve (44), and an inspiratory threshold valve (32). The threshold valve is biased to open when a threshold pressure within the mask is in the range from about -3 cm H₂O to about -25 cm H₂O.

5/3,AB/3 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.
00391878
LIQUID VENTILATION METHOD AND APPARATUS
PROCEDE ET DISPOSITIF DE VENTILATION LIQUIDE
Patent Applicant/Assignee:
LIFE RESUSCITATION TECHNOLOGIES INC,
Inventor(s):
FEDEROWICZ Michael G,
KLATZ Ronald M,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9732621 A1 19970912
Application: WO 97US3505 19970307 (PCT/WO US9703505)
Priority Application: US 9613049 19960308; US 9737335 19970102
Designated States: AU CA CN IL JP KR SG AT BE CH DE DK ES FI FR GB GR IE IT
LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 9909
English Abstract

This invention is a method and apparatus for liquid ventilation to increase the efficacy of cardiopulmonary resuscitation (CPR). The method includes replacing gas in the lungs with an oxygen and carbon dioxide carrying liquid to eliminate the decreased pumping efficiency of the heart seen during conventional or active compression/decompression (ACD) closed chest CPR without a mechanical respirator. An advantage is provided by supplying a continuous flow of liquid (or gaseous) ventilation medium throughout the entire chest compression/re-expansion cycle, accelerating both gas exchange and cooling or warming of the patient or animal subject. In the apparatus (100), breathing liquid returns from a patient via tube (101) and is supplied via tube (190), tubes (101, 190) being connected to an endotracheal tube (200). The apparatus includes a reservoir (110), an oxygenator (120), and a heater (130).

9/3,AB/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.
00522428
Apparatus for monitoring respiratory muscle activity
Gerat zur Uberwachung der Aktivitat des Atemmuskels
Appareil de la surveillance de l'activite de muscle de la respiration
PATENT ASSIGNEE:
Yamada, Yoshitsugu, (1525050), No. 11-21-903, Otowa 2-chome, Bunkyo-ku, Tokyo, (JP), (applicant designated states: DE;FR;GB;SE)
Nihon Kohden Corporation, (667940), 31-4, 1-chome, Nishiochiai, Shinjuku-ku Tokyo, (JP), (applicant designated states: DE;FR;GB;SE)
INVENTOR:
Yamada, Yoshitsugu, No. 11-21-903, Otowa 2-chome, Bunkyo-ku, Tokyo, (JP)
LEGAL REPRESENTATIVE:

Sajda, Wolf E., Dipl.-Phys. et al (9951), MEISSNER, BOLTE & PARTNER
Widenmayerstrasse 48, 80538 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 521515 A1 930107 (Basic)
EP 521515 B1 961023
APPLICATION (CC, No, Date): EP 92111278 920703;
PRIORITY (CC, No, Date): JP 91191205 910705
DESIGNATED STATES: DE; FR; GB; SE
INTERNATIONAL PATENT CLASS: A61B-005/08; A61B-005/087;
ABSTRACT EP 521515 A1

A respiratory muscle activity monitoring apparatus is provided with a pressure sensor (10) for detecting a pressure in an air passage (3) connecting a lung ventilator (1) and the airway system of a patient and a flow rate sensor (11) for detecting a flow rate in the air passage (3). An arithmetic constant detecting unit (15) detects a resistance R_{rs} and an elastance E_{rs} of the respiratory system including the airway and thorax beforehand by using detection signals from the pressure sensor (10) and the flow rate sensor (11) while the lung ventilator (1) is supplying air to the patient whose spontaneous breathing is temporarily stopped. Using an airway opening pressure P_{aw} detected by the pressure sensor (10) and a flow rate dV/dt detected by the flow rate sensor (11), a developed pressure calculating unit (18) calculates a pressure P_{mus} developed by the respiratory muscles during mechanical ventilation as well as during spontaneous breathing from the expression:

$$P_{mus} = P_{aw} + R_{rs}(dV/dt) + E_{rs} (dV/dt)dt.$$

An output unit (19) displays and/or records the obtained P_{mus} together with waveform signal detected by the pressure sensor (10) along a common time axis. Furthermore, by detecting a tidal volume V_T from flow rate, work W_{mus} is calculated as follows:

$$W_{mus} = - P_{aw}(dV/dt)dt + R_{rs}(dV/dt)(\sup 2)dt + (1/2)E_{rs}(V_T)(\sup 2).$$

(see image in original document)

ABSTRACT WORD COUNT: 228

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1068
CLAIMS B	(English)	EPAB96	607
CLAIMS B	(German)	EPAB96	560
CLAIMS B	(French)	EPAB96	671
SPEC A	(English)	EPABF1	3275
SPEC B	(English)	EPAB96	3342
Total word count - document A			4343
Total word count - document B			5180
Total word count - documents A + B			9523

11/6/1 (Item 1 from file: 349)
00837059 **Image available**

STIMULATORY DEVICE AND METHODS TO ELECTRICALLY STIMULATE THE PHRENIC NERVE
Publication Year: 2001

11/6/3 (Item 3 from file: 349)
00532574

STIMULATORY DEVICE AND METHODS TO ENHANCE VENOUS BLOOD RETURN DURING
CARDIOPULMONARY RESUSCITATION
Publication Year: 1999

11/3,AB,K/2 (Item 2 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

(c) 2002 WIPO/Univentio. All rts. reserv.

00555089

TRANSTHORACIC DRUG DELIVERY DEVICE

DISPOSITIF D'ALIMENTATION EN MEDICAMENT ADMINISTRE PAR VOIE TRANSTHORACIQUE

Patent Applicant/Assignee:

C R BARD INC,

Inventor(s):

GAMBALE Richard A,
FORCUCCI Stephen J,
CHOH Richard T,
CAFFERATA Robert,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200018462 A2 20000406 (WO 0018462)

Application: WO 99US22541 19990930 (PCT/WO US9922541)

Priority Application: US 98164164 19980930

Designated States: CA JP MX AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL
PT SE

Publication Language: English

Fulltext Word Count: 3970

English Abstract

The present invention provides a transthoracic drug delivery device (10) that utilizes pressure to determine the precise location of the distal tip (18) of the delivery tube (14) of the device to insure that therapeutic substances are ejected into the myocardium (4) and not dissipated in unintended tissue locations. In one embodiment the drug delivery device (10) comprises a pressure sensing tube (12) mounted in parallel to a drug delivery tube (14) wherein the tubes are staggered so that the pressure tube (12) extends beyond the delivery tube (14). In another embodiment, a steerable syringe is provided so that multiple sites in the myocardium can be treated with a therapeutic substance with only one penetration into the heart. Once the delivery tube (28) of the syringe penetrates the left ventricle, its distal tip (32) can be deflected back toward the endocardial surface (6) and the tube (28) withdrawn proximally to cause penetration of the tip (32) into the myocardium (4). The deflectable tip (32) can be adjusted to a different deflection angle and the delivery tube (28) rotated to make available a circular array of points that may be accessed by the syringe.

Detailed Description

... such as an angiogenic factor.

Summary of the Invention

The present invention provides a transthoracic drug delivery device that is specially configured to be precisely located in the myocardium for accurate placement...

...the epicardium to access the left ventricle. Access to the heart is gained through the thorax. A pressure monitor associated with the device indicates the position of the distal tip of the delivery...

File 348:EUROPEAN PATENTS 1978-2002/Sep W02

File 349:PCT FULLTEXT 1983-2002/UB=20020912,UT=20020905

Set Items Description

S1 42471 (DRUG OR DRUGS) (3N) (DELIVER? OR ADMINIST? OR THERAP?)

S2 1770 AIRWAY? ? AND VALVE? ?

S3 966424 REDUC? OR LOWER??? OR DECREAS???

S4 208 (THORAX OR THORACIC OR INTRATHORACIC) (2N) PRESSURE

S5 5 S1 AND S2(S) S3(5N) S4

S6 51 S3(5N)S4
S7 215 AIRWAY? ?(10N) VALVE? ?
S8 2 S6 (S)S7
S9 1 S8 NOT S5
S10 0 S1(10N)S4
S11 3 S1(S)S4

6/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
014111815
WPI Acc No: 2001-596027/200167
Congestive heart failure status monitoring method, involves calculating ratio indicating patient's CHF status, based on inhalation and exhalation value factors

6/7/2 (Item 2 from file: 350) *same patent as the one on page 18*
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
013121156 **Image available**
WPI Acc No: 2000-293027/200025
Transthoracic drug delivery device for delivery of a therapeutic substance to the myocardium of a human heart
Patent Assignee: BARD INC C R (BRDC); CAFFERATA R (CAFF-I); CHOH R T (CHOH-I); FORCUCCI S J (FORC-I); GAMBALE R A (GAMB-I)
Inventor: CAFFERATA R; CHOH R T; FORCUCCI S J; GAMBALE R A
Number of Countries: 023 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200018462	A2	20000406	WO 99US22541	A	19990930	200025 B
US 6251079	B1	20010626	US 98164164	A	19980930	200138
EP 1117457	A2	20010725	EP 99951642	A	19990930	200143
			WO 99US22541	A	19990930	
US 20010037086	A1	20011101	US 98164164	A	19980930	200168
			US 2001888750	A	20010625	

Priority Applications (No Type Date): US 98164164 A 19980930; US 2001888750 A 20010625

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 200018462	A2	E	19 A61M-025/00	
			Designated States (National): CA JP MX	
			Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE	
US 6251079	B1		A61B-005/02	
EP 1117457	A2	E	A61M-025/00	Based on patent WO 200018462
			Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE	
US 20010037086	A1		A61M-031/00	Div ex application US 98164164 Div ex patent US 6251079

Abstract (Basic): WO 200018462 A2
NOVELTY - Drug delivery device (10) consists of a pressure sensing tube (12) and a drug delivery tube (14) joined to the pressure sensing tube (12) in a parallel relationship, but staggered so that one tube extends beyond the other by a known distance.
DETAILED DESCRIPTION - There are INDEPENDENT CLAIMS for methods of

delivery of a therapeutic substance into the myocardium and a steerable syringe.

USE - It uses pressure to determine the precise location of the delivery tube distal tip to insure that therapeutic substances are ejected into the myocardium and not dissipated in unintended tissue locations.

ADVANTAGE - It can access the myocardium and left ventricle of the heart transthoracically and accurately indicates the position of the distal tip of the device within the heart. A therapeutic substance is delivered to the myocardium accurately and easily. Multiple points can be accessed on the endocardial surface of the myocardium with a single penetration into the heart.

DESCRIPTION OF DRAWING(S) - The drawing shows a drug delivery device inserted through the left ventricle myocardium.

Drug delivery device (10)

Pressure sensing tube (12)

Drug delivery tube (14)

pp; 19 DwgNo 1/8

Derwent Class: B07; P31; P34

International Patent Class (Main): A61B-005/02; A61M-025/00; A61M-031/00

International Patent Class (Additional): A61M-005/00; A61M-037/00

File 350:Derwent WPIX 1963-2002/UD,UM &UP=200259

File 344:Chinese Patents Abs Aug 1985-2002/Sep

File 347:JAPIO Oct 1976-2002/May(Updated 020903)

File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	10152	(DRUG OR DRUGS) (3N) (DELIVER? OR ADMINIST? OR THERAP?)
S2	278	AIRWAY? ? AND VALVE? ?
S3	4293643	REDUC? OR LOWER??? OR DECREAS???
S4	67	(THORAX OR THORACIC OR INTRATHORACIC) (2N) PRESSURE
S5	30	TRANSTHORACIC
S6	2	S1 AND S4:S5